

INTRODUCTION

The City of Greenville has the authority to develop and implement a stormwater management program to reduce the potential for stormwater damage to life, public health, safety, property, and the environment in the City of Greenville. The purpose of this section of the Plan is to benchmark the institutional and regulatory aspects of the current stormwater management system for the City of Greenville. The City of Greenville is located in the northwestern corner of South Carolina. It is situated at the foothills of the Blue Ridge Mountains, an area commonly referred to as the Upstate. The City has a population of approximately 56,000 residents located in a 27 square mile area. Greenville is at the cutting edge of new economic development opportunities. Greenville's Downtown area is undergoing revitalization and the Downtown area is flourishing as the home to offices, shops, restaurants, entertainment, and many residents.

INSTITUTIONAL & ORGANIZATION DESCRIPTION

A review of the institutional and organization components of the existing stormwater management system in the City of Greenville will help identify issues and gaps in the present system and serve again as a benchmark on which to direct the future Stormwater Program. This section will identify the federal, state, and local agencies involved in stormwater management within or near the City of Greenville. A brief summary of levels of service currently provided as well as current Stormwater Management Issues facing the City of Greenville will be reviewed. These levels of service address activities such as: Administration and Management, Regulation, Planning, and Maintenance.

Administration and Management activities include various administrative and management activities that support the operation and governing of stormwater management programs: program development, budgeting, identification of funding sources, and management of technical staff. These may include management activities such as technical assistance, public information outreach, maintenance of a stormwater database, and disaster assistance activities.

Regulation functions include the administration of a permit program, consisting typically of permit review, inspection, enforcement, and guidance. It also may include coordination with other regulatory entities.

Planning functions involve stormwater management and capital improvement planning activities. Watershed planning has two basic purposes. The first purpose is to develop recommendations to remediate existing flooding and other water resource, environmental, or water quality problems. A strategy is then prepared to implement the recommendations. The second purpose is to identify strategies and provide the tools to prevent increased flooding and degradation of watershed resources. Additional information concerning the components of a comprehensive watershed plan is discussed later. This function also includes capital improvement planning.

Maintenance activities involve the upkeep of property and equipment related to constructed stormwater facilities and preserving the natural functions of streams, lakes and wetlands. Stormwater facility maintenance includes cleaning debris from detention ponds, drainage systems, catch basins, and storm sewers. Inspections, regular upkeep and repair of facilities maintain system performance. Maintenance and management of the natural drainage system typically requires inspecting and removing debris from streams, and protection of streambanks from erosion. More intensive activities focus on stream corridor vegetative management and restoration as well as preventing excessive stream bed erosion and deposition.

FEDERAL AGENCIES

Each of the following Federal Agencies listed below are discussed in general terms based on their activities related to their functional framework addressing stormwater management.

United States Army Corps of Engineers: The USACE is responsible for structural and non-structural urban flood control. The structural program features the study, design and construction of capital projects whereas the non-structural program regulates all dredging and filling in the Waters of the United States including jurisdictional wetlands.

Administration and Management – The USACE is not currently involved in the administration or management of flood control projects along navigable waters within the City of Greenville.

Regulation – Section 404 of the Clean Water Act prohibits the discharge of dredged or fill material into Waters of the United States without a permit from USACE. USACE is primarily interested in protecting the water quality and habitat value of wetlands and does not directly protect the stormwater storage volume of wetlands.

Planning – USACE administers a program for cost-sharing funding for the study, design and construction of flood control projects. These projects are generally limited to structural flood control measures. If a reconnaissance level study shows that a project is likely to be cost effective, USACE proceeds with a project analysis, which must be funded locally by 50% matching funds. For approved projects, USACE administers funds up to 65% of design and construction costs with the remaining costs to be funded by a non-federal or local sponsor. These sponsors must furnish all required lands, easements and rights-of-way, utility relocations, as well as operate and maintain the completed project in perpetuity. Cost sharing agreements must be individually negotiated with USACE on a project-by-project basis. USACE also provides design services for floodproofing of residences as part of an overall flood control project.

Maintenance – USACE is not involved in maintenance activities except for those for its own facilities.

Federal Emergency Management Agency FEMA is part of the United States Department of Homeland Security and responsible for the National Flood Insurance Program (NFIP). FEMA provides disaster assistance during floods and other disasters, and provides mitigation funds. FEMA produces floodplain maps used for insurance and regulatory purposes under the NFIP.

Administration and Management – FEMA is the lead agency in providing federal disaster assistance. In South Carolina, assistance and funding for relief, recovery, and mitigation programs is provided through South Carolina Emergency Management Division (SCEMD). The NFIP is administered through South Carolina Department of Natural Resources (SCDNR). FEMA has participated in and sponsored training programs on the NFIP and flood hazard mitigation activities.

Regulation – To maintain eligibility in the NFIP, local governments must adopt and enforce minimum floodplain standards set by FEMA. Participation in the NFIP allows residents of the community to purchase flood insurance and their communities to be eligible for federal emergency relief funds if a presidential disaster is declared. Flood insurance must be purchased for insurable structures within floodplains if the owners apply for federal grants or loans, or federally insured or subsidized loans, such as mortgages. In support of the local regulatory programs, floodplain mapping has been produced for all communities participating in the NFIP. The most recent countywide mapping update to the Greenville County Flood Insurance Rate Maps (FIRM) occurred in 2004. In support of the NFIP, SCDNR has prepared a model floodplain ordinance for communities to adopt. Adoption and enforcement of the ordinance satisfies FEMA's requirements to maintain eligibility in the federal program.

Planning – FEMA has several flood hazard mitigation funding programs that are administered by SCEMD. Some of the FEMA regulatory floodplain maps for Greenville County are inadequate. They do not include water surface elevations or they are out of date, due to significant land use and other topographic changes. FEMA has initiated a NFIP map modernization program. The primary goal of map modernization is to make flood risk maps easy to use and readily available in digital format. NFIP maps will be updated as part of this effort, which at a local level is compiling existing hydrologic and hydraulic modeling data for selected map panels in Greenville County. This data will be used during the maintenance phase of map modernization

Maintenance – FEMA is not involved in maintenance activities.

United States Department of Agriculture – Natural Resources Conservation

Service The NRCS, formerly the Soil Conservation Service, is primarily concerned with the wise use of soil, water and other related natural resources. NRCS assists local government by providing soils data, swamp buster maps (location of farmed wetlands and hydric soils), floodplain management studies and other natural resources information.

Administration and Management – NRCS provides technical assistance to local soil and water conservation districts. NRCS co-sponsors training including courses and workshops in design and implementation of stormwater BMPs, soil erosion and sediment control, wetland management, and hydrologic computer modeling.

Regulation – NRCS uses a voluntary, rather than a regulatory, approach to enforce its conservation program authorities. In agricultural areas, producers who want to participate in the United States Department of Agriculture's programs and receive benefits must meet NRCS conservation requirements. NRCS has developed conservation practice standards and specifications that may be used in regulatory programs.

Planning – NRCS has planned, designed, and constructed flood control facilities to address overbank flooding in some metropolitan regions with local sponsors. NRCS has also performed floodplain management studies and updated floodplain mapping for local governments.

Maintenance – NRCS has no maintenance responsibilities but does provide technical assistance to land owners and public works officials on maintenance of streams and stormwater management facilities in agricultural and urban areas.

United States Geological Survey The USGS provides the hydrologic information necessary to achieve the best use and management of the nation's water resources.

Administration and Management – Although the USGS is not involved in local stormwater administration and management, USGS sponsors or co-sponsors training courses in hydrologic and hydraulic modeling that City of Greenville staff may attend.

Regulation – The USGS does not have regulatory authority relating to stormwater management.

Planning – Through a cooperative program, the USGS maintains a stream gauging network and publishes an annual report containing daily stream flow data and water quality information for selected sites around the state. The USGS provides funding for site-specific hydrologic and water quality data collection and analysis. Some mapping efforts may be fundable through the USGS. USGS funds 50% of a project's in-house labor and expenses. On this

50% cost basis, USGS provides technical assistance in developing watershed models and other hydrologic and water quality related assistance. In the past, the USGS has researched and completed studies on emerging technologies in the water resources field.

Maintenance – USGS is not involved in maintenance activities.

United States Environmental Protection Agency The USEPA protects the nation's waters from pollution through the Clean Water Act.

Administration and Management – USEPA is not involved in local administration or management of stormwater programs.

Regulation – NPDES is the responsibility of USEPA; however, that authority has been delegated to the Department of Health and Environmental Control (DHEC) in South Carolina. Not directly involved in the permitting process, USEPA works with USACE to establish wetlands policy. USEPA has enforcement authority for several sections of the Clean Water Act.

Planning – USEPA provides grants for water quality related planning and demonstration projects under Section 319(h) of the Clean Water Act. USEPA routinely holds national conferences on stormwater-related topics.

Maintenance – USEPA plays no direct role in maintenance activities. USEPA is an administrator of grant funds to assist in maintenance and restoration activities.

National Park Service The National Park Service (NPS) is charged with preserving the nation's natural, cultural, and recreational resources. The NPS carries out its mission through acquisition, development, and maintenance of the nation's parks and by providing technical assistance to state and local governments as well as private organizations.

Administration and Management – The NPS is not involved with administration and management of stormwater activities in the City of Greenville.

Regulation – The NPS does not have regulatory authority relating to stormwater management.

Planning – The Rivers Trails and Conservation Assistance Program provides technical assistance to support local river conservation projects. The NPS staff will work with local governments and private groups on river corridor projects to help them achieve multiple benefits including floodwater retention, wetland protection, habitat restoration, water quality improvements, and recreational opportunities. The NPS staff can assist with citizen involvement activities,

local discussion and decision making, and development and implementation of plans.

Maintenance – The NPS is not involved in maintenance activities in the City of Greenville.

STATE AGENCIES

Each of the state agencies and organizations listed below is discussed in general terms based on its activities and how they fit into the four functional categories.

South Carolina Department of Natural Resources, Land, Water and Conservation Division

Administration and Management - SCDNR provides technical assistance to communities on floodplain management issues, NFIP regulations, and flood mitigation planning. SCDNR also administers the Flood Mitigation Assistance (FMA) program, which is a FEMA program that provides funds to state and communities on a cost-shared basis to flood mitigation measures for properties insured under the NFIP.

Regulation – SCDNR has no stormwater regulatory authority and is not involved in regulatory issues.

Planning - Planning grants are available to develop new flood mitigation plans and update existing plans. Project grants are available to implement acquisition, elevation or drainage improvement projects. SCDNR staff provides technical assistance in application development and project management, including but not limited to site visits, application reviews, and conducting benefit cost analysis.

Maintenance – SCDNR is not involved in maintenance activities.

South Carolina Emergency Management Division The South Carolina Emergency Management Division (SCEMD) is responsible for the development, coordination, and maintenance of the South Carolina Emergency Operations Plan, Hurricane Plan, Earthquake Plan, and selected other natural hazard plans. It also is responsible for hazard mitigation planning at the state and local levels, and for pre-disaster and post-disaster mitigation projects.

Administration and Management – SCEMD is responsible for the training of emergency planners and response personnel at the state and local levels as well as the development and execution of state emergency management exercises. It provides technical assistance at all levels for planning, training, and exercises. SCEMD coordinates the efforts of the Interagency Mitigation Advisory Group that includes all state and federal agencies involved in

mitigation funding. The group monitors disaster recovery and mitigation activities, and allocates state and federal mitigation funds. The Interagency Mitigation Advisory Group is most active following a presidential disaster declaration.

Regulation – SCEMD has no stormwater regulatory authority and is not involved in regulatory issues.

Planning – SCEMD administers hazard mitigation programs in South Carolina for FEMA. Two SCEMD grant programs relate to stormwater and floodplain planning: Hazard Mitigation Grant Program and the Pre-Disaster Mitigation Program.

The other two programs require the adoption of a local hazard mitigation plan approved by SCEMD and FEMA before project funds can be granted. Projects must have benefits that exceed the cost to be eligible for funding. The SCEMD grant programs provide 75% funding with a required 25% (nonfederal) match of cash and in-kind services. Funding for the Hazard Mitigation Grant Program is initiated by a presidential disaster declaration. Eligible projects include the acquisition, relocation, or elevation of flood-prone structures. The Pre-Disaster Mitigation Program provides preflood grants to prepare and implement hazard mitigation plans for flooding. These grants can also be applied to all types of natural hazards. Grant applications are made to SCEMD. SCEMD then submits them to FEMA, and all applicants compete on a nationwide basis for available funding.

Maintenance – SCEMD is not involved in maintenance activities.

South Carolina Department of Health and Environmental Control The South Carolina Department of Health and Environmental Control (DHEC) is the responsible agency for safeguarding environmental quality, consistent with the social and economic welfare of the state, for protecting health, welfare, property and the quality of life.

Administration and Management – DHEC has developed and implemented resources to educate designers and permit reviewers in applying stormwater BMPs on urban development sites, as well as distributed public education materials.

Regulation – DHEC is the state regulatory agency that oversees water quality and issues NPDES permits under Section 402p of the Clean Water Act. The Clean Water Act Amendments of 1987 established the NPDES storm water program. The act called for implementation in two phases. Phase I applied to construction projects larger than 5 acres and municipal storm sewer systems. Phase II began in 1999, and applies to Phase I regulated sites, as well as construction sites that disturb one acre or more. These sites are required to be

covered under the NPDES general permit that approves storm water discharges from construction site activities. In conjunction with the USACE's responsibilities for issuing permits for wetlands, DHEC makes determinations regarding water quality impacts due to wetland disturbances and issues Water Quality Certification under Section 401 of the Clean Water Act.

Planning –DHEC provides grants annually for implementation of non-point source control plans and demonstration projects. These projects can include BMPs to curtail urban runoff as well as instream activities to reduce erosion, sedimentation, and degradation of water quality, as detailed in Section 319 of the Clean Water Act.

Maintenance – DHEC is not directly involved in maintaining stormwater infrastructure. DHEC does have grants available for local governments to assist in stream maintenance that addresses water quality.

South Carolina Department of Transportation The South Carolina Department of Transportation (SCDOT) is responsible for planning, building and maintaining the state's highway system. It is involved in drainage issues on projects related to stream crossings and drainage of roadways.

Administration and Management – SCDOT is not involved in the administration and management of stormwater programs in the City of Greenville, other than its own drainage needs. SCDOT is a regulated MS4 and is currently negotiating their NPDES Permit.

Regulation – SCDOT has regulatory authority over construction activities that may affect its drainage system. The authority allows SCDOT to review drainage plans to determine whether there is a diversion or increase of runoff into SCDOT rights-of-way.

Planning – SCDOT is not involved in stormwater or watershed planning activities, other than activities related to its own drainage systems.

Maintenance – SCDOT is responsible for maintaining the drainage system within its rights-of-way, including bridges and culverts.

LOCAL AGENCIES AND ORGANIZATIONS

Each of the local agencies and organizations listed below is discussed in general terms based on its activities and how they fit into the four functional categories.

City of Greenville The City of Greenville is involved in stormwater management activities within its corporate boundaries.

Administration and Management – Greenville is responsible for stormwater management and administration within its corporate boundaries and operates independently of neighboring jurisdictions. The program is funded through a Stormwater Utility Fee.

Regulation – The City of Greenville had adopted stormwater regulations, floodplain regulations, and soil erosion and sediment control standards. The floodplain regulations are enforced and meet the minimum standards required for participation in the NFIP. The regulations address stormwater runoff, retention/detention requirements from site development, as well as regulate construction within the floodplain. The stormwater regulations and soil erosion and sediment control standards are designed to meet the NPDES Phase II requirements established by EPA.

Planning – Stormwater planning is performed by the City of Greenville Public Works Department Engineering Division. Planning assistance on larger waterways may be initiated by state and federal agencies. Capital improvement projects that address local drainage problems are implemented by the City of Greenville Public Works Department Engineering Division.

Maintenance – Maintenance of stormwater infrastructure within the City of Greenville is limited to City owned assets and are maintained by the Public Works Department.

Greenville County Greenville County is involved in stormwater management activities in the unincorporated portions of the County.

Administration and Management – Greenville is responsible for stormwater management and administration for the unincorporated areas of Greenville County. The program is partially funded through a Stormwater Utility Fee. The stormwater and soil erosion and sediment control activities are managed by the Public Works Department and floodplain activities are managed by the Development Department.

Regulation – The Greenville County had adopted stormwater regulations, floodplain regulations, and soil erosion and sediment control standards. The floodplain regulations are enforced and meet the minimum standards required for participation in the NFIP. The regulations address stormwater runoff, retention/detention requirements from site development, as well as regulate construction within the floodplain. The stormwater regulations and soil erosion and sediment control standards are designed to meet the NPDES Phase I requirements established by.

Planning – Watershed planning is performed for Greenville County. Capital improvement projects that address local drainage problems are implemented and funded by Greenville County.

Maintenance – Maintenance of stormwater infrastructure within Greenville County is limited to County owned assets.

Soil & Water Conservation District The purpose of the SWCD is to provide information, education and guidance on the conservation and wise use of natural resources.

Administration and Management – The SWCD provide technical assistance relating to soil and water to both rural and urban communities.

Regulations – The SWCD have no specific stormwater regulatory authority. The SWCDs are charged with assisting individual communities and governments in maintaining farmlands, protecting wetlands, lakes and rivers from damage caused by point and non-point source pollution, flooding, erosion and sediments.

Planning – The SWCD assist local, state and federal government agencies in planning conservation programs such as streambank stabilization, habitat restoration, erosion control projects and other such capital improvement projects

Maintenance – The SWCD do not perform maintenance activities but do provide technical assistance and historical drainage data for maintaining drainage systems in urban and rural areas.

Western Carolina Regional Sewer Authority

Administration and Management – WCRSA is not involved in the administration and management of stormwater programs in the City of Greenville, other than issues related to Inflow and Infiltration into their sanitary mains.

Regulation – WCRSA has no stormwater regulatory authority and is not involved in regulatory issues.

Planning – WCRSA is not involved in stormwater or watershed planning activities, other than issues related to Inflow and Infiltration into their sanitary mains.

Maintenance – WCRSA is not involved in stormwater maintenance activities, other than issues related to Inflow and Infiltration into their sanitary mains.

Property and Homeowner Associations Many homeowner associations are responsible for maintaining stormwater facilities within their subdivisions.

Administration and Management – Homeowner associations are not responsible for administration of stormwater programs.

Regulations – Homeowner associations have no stormwater regulatory authority. In some subdivisions, developers have placed covenants on individual lots for maintaining drainage paths, roadside swales, drainage easements or native vegetation within and adjacent to wetlands, streams and detention basins.

Planning – Homeowner associations are not involved in watershed planning activities.

Maintenance – Homeowner associations are often responsible for maintaining their stormwater infrastructure, which generally consists of retention/detention basins.

SUMMARY

Stormwater management programs have been in place in the City of Greenville for many years. Yet many existing and potential flood problems have not been addressed due to existing program funding limitations. Stormwater regulations in the City have been in place for many years, but a comprehensive stormwater management approach does not exist. The existing stormwater management framework in the City of Greenville is extensive, though it is fragmented between the authorities and responsibilities of local, state and federal agencies